

Independent Practice

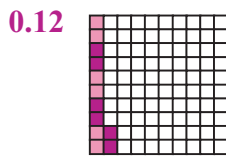
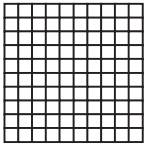
5.4

NAME _____

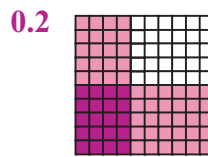
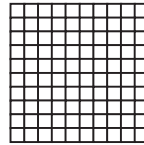
Module 5 Decimal Operations, Exponents, and Powers
Lesson 4 Multiplying Decimals

Use a model to solve.

1. 6×0.02



2. 0.5×0.4



Multiply.

3. 0.44×100

44

4. $3.65 \times 1,000$

3,650

5. 7.5×10

75

6. 9.055×100

905.5

Estimate before multiplying.

7. 32.75×0.95

Estimate: 32
Product: 31.1125

8. 14.7×8.2

Estimate: 120
Product: 120.54

Multiply.

9. 4.8×1.3

6.24

10. 5.83×1.01

5.8883

11. 9.1×0.004

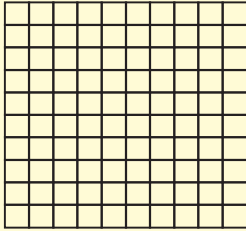
0.0364

12. 0.801×340.2

272.5002

Journal

1. How are the models to find 0.3×2 and to find 2×0.3 the same? How are they different?
2. Model 0.5×0.1 . Use the model to explain why 0.5 is the same as $\frac{1}{2}$. Give the answer to the multiplication in your explanation.



3. Nate multiplied 4.6×3.0 as shown below. Find and explain his error.

$$\begin{array}{r} 4.6 \\ \times 3.0 \\ \hline 1.38 \end{array}$$

4. Helene multiplied 24.6 by 10,000,000. She counted seven zeros in the second factor and added seven zeros to the first factor for an answer of 2,460,000,000. What is wrong with her reasoning? What is the correct answer? Explain how to tell how many zeros are in the product of $1.3769 \times 10,000,000,000$ just by looking at the problem.

Cumulative Review

Round to the nearest tenth and then to the nearest hundredth.

1. 5.605

5.6
5.61

2. 0.4648

0.5
0.46

3. 4.599

4.6
4.60

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Module 5 Decimal Operations, Exponents, and Powers
Lesson 4 Multiplying Decimals

Order each set of numbers from least to greatest.

4. $0.1, -0.1, -1, 0.001$

$-1, -0.1, 0.001, 0.1$

5. $-0.45, -\frac{1}{2}, -0.3$

$-\frac{1}{2}, -0.45, -0.3$

Estimate.

6. $\$21.09 + \5.92

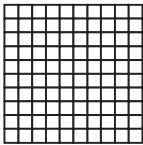
$\$27$

7. $\$19.88 + \8.90

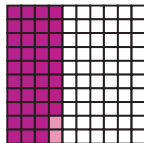
$\$29$

Find the sum or difference using a model.

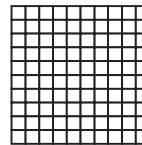
8. $0.38 + 0.02$



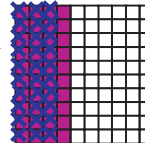
0.4



9. $0.4 - 0.3$



0.1



Find the sum or difference.

10. $4.12 + 9.084$

13.204

11. $100.55 - 25.65$

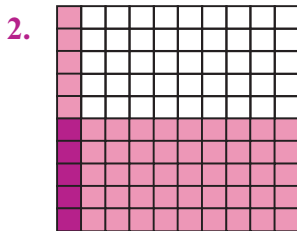
74.9

12. $6.8 - 2.387$

4.413

Possible Journal Answers

1. They are the same because in both, six tenths are shaded. They are different because 0.3×2 uses two wholes, each with 0.3 shaded and 2×0.3 uses just one whole, with 0.3 shaded twice.



Five tenths is the same as $\frac{1}{2}$ because the answer is half the number of blocks shaded by the first factor. That is, 10 blocks were shaded, and the intersection is five blocks, which is half of 10. Because each block is one hundredth, the answer is 0.05.

3. By writing three as 3.0, Nate needs to have a zero in the product before moving the decimal to the left two places.

$$\begin{array}{r} 4.6 \\ \times 3.0 \\ \hline 13.80 \end{array}$$

He could have multiplied like this.

$$\begin{array}{r} 4.6 \\ \times 3 \\ \hline 13.8 \end{array}$$

4. Helene correctly counted seven zeros, but that is the number of places to move the decimal, not the number of zeros to add. Moving the decimal past the six accounts for one of the places, and the other six places are filled with zeros. The correct answer is 246,000,000.

There are 10 zeros in the multiple of 10. When the decimal is moved 10 places to the right in 1.3769, there will be six zeros because four places are taken by the four digits after the decimal point.